

IN THE CLAIMS:

Please cancel Claims 5, 16, 22 and 36, without prejudice to the rights of Applicants to the inventions defined therein.

Please amend Claims 1, 2, 11-13, 17-20, 31, 33 and 34 to read as follow:

- DW*
- B1*
1. (Amended) An apparatus for imparting disruptive forces onto a target surface, comprising:
 - a housing;
 - a source of electromagnetic energy coupled to the housing and constructed to focus or direct electromagnetic energy into an interaction zone in close proximity to the target surface;
 - at least one contacting leg coupled to the housing and comprising a ball roller, the at least one contacting leg being constructed to contact a surface with the ball roller and to space the source of electromagnetic energy from the target surface when the electromagnetic energy is being focused or directed into the interaction zone; and
 - a fluid output constructed to place fluid into the interaction zone, simultaneously with the focusing or directing of electromagnetic energy into the interaction zone, at least part of the electromagnetic energy from the source of electromagnetic energy being absorbed by at least a portion of the fluid in the interaction zone, and the absorption of the electromagnetic energy by the fluid causing the fluid to expand and impart disruptive forces onto or within the target surface.
 2. (Amended) The apparatus as set forth in Claim 41, wherein:
 - the surface contacted by the at least one contacting leg is in close vicinity to the target surface; and
 - the fluid output comprises a moisture output constructed to place moisture

into the interaction zone, simultaneously with the focusing or directing of infrared electromagnetic energy into the interaction zone, the infrared electromagnetic energy from

the source of infrared electromagnetic energy being absorbed by the moisture in the interaction zone, and the absorption of the infrared electromagnetic energy by the moisture

causing the moisture to expand and impart disruptive forces onto or within the target surface.

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11. (Amended) The apparatus as set forth in Claim 2, wherein the source of infrared electromagnetic energy is constructed to deliver a peak concentration of infrared electromagnetic energy into the interaction zone, the peak concentration of infrared electromagnetic energy being greater than a concentration of infrared electromagnetic energy delivered onto the target surface.

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12. (Amended) The apparatus as set forth in Claim 11, wherein the source of infrared electromagnetic energy comprises a fiber tip which terminates at a boundary of the interaction zone.

13. (Amended) The apparatus as set forth in Claim 12, wherein the source of infrared electromagnetic energy comprises at least one reflector and a window.

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17. (Amended) The apparatus as set forth in Claim 2, wherein: the infrared electromagnetic energy from the source of infrared electromagnetic energy is highly absorbed by the moisture in the interaction zone; the interaction zone is substantially bounded in a dimension, measured in a direction parallel to a direction of propagation of the infrared electromagnetic radiation, that is no larger than about 5 mm from the target surface when the at least one contacting leg is contacting the target surface; and

an amount of moisture extending beyond the 5 mm boundary of the interaction zone in a path of the infrared electromagnetic radiation is negligible, so that an amount of absorption of the infrared electromagnetic radiation by the moisture beyond the 5 mm boundary does not detectably alter the cutting power of the apparatus, compared to a cutting power that the apparatus would have if no moisture extended beyond the 5 mm boundary of the interaction zone.

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18. (Amended) The apparatus as set forth in Claim 2, wherein the infrared electromagnetic energy from the source of infrared electromagnetic energy has a wavelength which is highly absorbed by the moisture in the interaction zone.

19. (Amended) The apparatus as set forth in Claim 2, wherein the infrared electromagnetic energy from the source of infrared electromagnetic energy has a wavelength which is not highly absorbed by the moisture in the interaction zone.

20. (Amended) The apparatus as set forth in Claim 2, wherein:
the source of infrared electromagnetic energy comprises a fiber optic having an output end; and
the moisture output is constructed to output moisture onto the output end of the fiber optic.

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31. (Amended) A method of imparting disruptive forces onto a target surface, comprising:

focusing or directing electromagnetic energy into an interaction zone above the target surface whereby the electromagnetic energy is moved over at least a part of the target surface during a first time period;
placing first amounts of moisture into the interaction zone during the first time period;

focusing or directing electromagnetic energy into the interaction zone above the target surface whereby the electromagnetic energy is moved over substantially the same part of the target surface during a second time period; and

placing second amounts of moisture into the interaction zone during the second time period, the second amounts of moisture being less than the first amounts of moisture.

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34. (Amended) An apparatus for imparting disruptive forces onto a target surface, comprising:

a housing;

a source of electromagnetic energy coupled to the housing and constructed to focus or direct electromagnetic energy into an interaction zone in close proximity to the target surface;

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at least one contacting leg coupled to the housing, the at least one contacting leg being constructed to contact a surface and to space the source of electromagnetic energy from the target surface when the electromagnetic energy is being focused or directed into the interaction zone; and

a moisture output constructed to simultaneously place moisture into close proximity of the interaction zone simultaneously with the focusing or directing of electromagnetic energy into the interaction zone;

wherein at least one of (a) substantially all of the at least one contacting leg and (b) at least part of the housing adjacent to the contacting leg, comprises a transparent material.

Please add New Claims 39-120 as follows:

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39. (New) The apparatus as set forth in Claim 1, wherein the fluid output comprises water and an additive having lubricating properties for facilitating operation of the ball roller.

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40. (New) The apparatus as set forth in Claim 1, wherein the fluid output comprises soft water.

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41. (New) The apparatus as set forth in Claim 1, wherein the source of electromagnetic radiation comprises a source of infrared electromagnetic energy constructed to focus on direct infrared electromagnetic energy into the interaction zone.

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42. (New) The apparatus as set forth in Claim 1, wherein in addition to the disruptive forces imparted onto or within the target surface the apparatus imparts thermal cutting forces and coagulation onto or within the target surface.

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43. (New) The apparatus as set forth in Claim 1, wherein the fluid output comprises water and is constructed to simultaneously place water into the interaction zone so that the at least part of the electromagnetic energy from the source of electromagnetic energy is absorbed by the at least a portion of the fluid in the interaction zone.

44. (New) The apparatus as set forth in Claim 1, wherein the electromagnetic energy comprises laser energy from an Er, Cr:YSGG solid state laser having a wavelength of about 2.78 microns.

45. (New) The apparatus as set forth in Claim 1, wherein the electromagnetic energy comprises laser energy from an Er:YAG solid state laser having a wavelength of about 2.94 microns.

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46. (New) The apparatus as set forth in Claim 1, wherein the electromagnetic energy comprises laser energy from an Er:YAG solid state laser having a wavelength in a range of about 2.7 microns to about 2.8 microns.

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47. (New) The apparatus as set forth in Claim 1, wherein the electromagnetic energy comprises laser energy from a CTE:YAG solid state laser having a wavelength of about 2.69 microns.

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48. (New) The apparatus as set forth in Claim 29, wherein the step of simultaneously placing moisture into the interaction zone comprises simultaneously placing water into the interaction zone.

49. (New) The apparatus as set forth in Claim 29, wherein at least one of the focusing or directing steps comprises focusing or directing laser energy from an Er, Cr:YSGG solid state laser having a wavelength of about 2.78 microns.

50. (New) The apparatus as set forth in Claim 29, wherein at least one of the focusing or directing steps comprises focusing or directing laser energy from an Er:YAG solid state laser having a wavelength of about 2.94 microns.

51. (New) The apparatus as set forth in Claim 29, wherein at least one of the focusing or directing steps comprises focusing or directing laser energy from an Er:YAG solid state laser having a wavelength in a range of about 2.7 microns to about 2.8 microns.

52. (New) The apparatus as set forth in Claim 29, wherein at least one of the focusing or directing steps comprises focusing or directing laser energy from a CTE:YAG solid state laser having a wavelength of about 2.69 microns.

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53. (New) The method as set forth in Claim 31, wherein the first amounts of moisture comprise a first composition, the second amounts of moisture comprise a second composition, and the first composition is different than the second composition.

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54. (New) The method as set forth in Claim 31a, wherein the first amounts of moisture comprise an anesthetic.

55. (New) The apparatus as set forth in Claim 31, wherein at least one of the step of placing first amounts of moisture into the interaction zone and the step of placing second amounts of moisture into the interaction zone comprises placing water into the interaction zone.

56. (New) The apparatus as set forth in Claim 31, wherein at least one of the focusing or directing steps comprises focusing or directing laser energy from an Er, Cr:YSGG solid state laser having a wavelength of about 2.78 microns.

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57. (New) The apparatus as set forth in Claim 31, wherein at least one of the focusing or directing steps comprises focusing or directing laser energy from an Er:YAG solid state laser having a wavelength of about 2.94 microns.

58. (New) The apparatus as set forth in Claim 31, wherein at least one of the focusing or directing steps comprises focusing or directing laser energy from an Er:YAG solid state laser having a wavelength in a range of about 2.7 microns to about 2.8 microns.

59. (New) The apparatus as set forth in Claim 31, wherein at least one of the focusing or directing steps comprises focusing or directing laser energy from a CTE:YAG solid state laser having a wavelength of about 2.69 microns.

60. (New) The apparatus as set forth in Claim 33, wherein at least one of (a) substantially all of the at least one contacting leg and (b) at least part of the housing adjacent to the contacting leg, comprises a transparent material.

61. (New) The apparatus as set forth in Claim 60, wherein the at least one contacting leg and the housing adjacent to the at least one contacting leg comprise a transparent material.

62. (New) The apparatus as set forth in Claim 33, wherein the moisture output comprises water and is constructed to place water into close proximity of the interaction zone simultaneously with the focusing or directing of electromagnetic energy into the interaction zone.

63. (New) The apparatus as set forth in Claim 33, wherein the source of electromagnetic energy comprises an Er, Cr:YSGG solid state laser having a wavelength of about 2.78 microns.

64. (New) The apparatus as set forth in Claim 33, wherein the source of electromagnetic energy comprises an Er:YAG solid state laser having a wavelength of about 2.94 microns.

65. (New) The apparatus as set forth in Claim 33, wherein the source of electromagnetic energy comprises an Er:YAG solid state laser having a wavelength in a range of about 2.7 microns to about 2.8 microns.

66. (New) The apparatus as set forth in Claim 33, wherein the source of electromagnetic energy comprises a CTE:YAG solid state laser having a wavelength of about 2.69 microns.

67. (New) The apparatus as set forth in Claim 34, wherein the moisture output comprises water and is constructed to place water into close proximity of the interaction zone simultaneously with the focusing or directing of electromagnetic energy into the interaction zone.

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68. (New) The apparatus as set forth in Claim 34, wherein the source of electromagnetic energy comprises an Er, Cr:YSGG solid state laser having a wavelength of about 2.78 microns.

69. (New) The apparatus as set forth in Claim 34, wherein the source of electromagnetic energy comprises an Er:YAG solid state laser having a wavelength of about 2.94 microns.

70. (New) The apparatus as set forth in Claim 34, wherein the source of electromagnetic energy comprises an Er:YAG solid state laser having a wavelength in a range of about 2.7 microns to about 2.8 microns.

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71. (New) The apparatus as set forth in Claim 34, wherein the source of electromagnetic energy comprises a CTE:YAG solid state laser having a wavelength of about 2.69 microns.

72. (New) The apparatus as set forth in Claim 34, wherein the at least one contacting leg comprises a plurality of contacting legs.

73. (New) The apparatus as set forth in Claim 72, wherein the plurality of contacting legs and the housing adjacent to and bridging the plurality of contacting legs comprise a transparent material.

74. (New) The apparatus as set forth in Claim 73, wherein the transparent material comprises a transparent plastic.

75. (New) The apparatus as set forth in Claim 34, wherein the at least one contacting leg and the housing adjacent to the at least one contacting leg comprise a transparent material.

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76. (New) The apparatus as set forth in Claim 75, wherein the transparent material comprises a transparent plastic.

77. (New) The apparatus as set forth in Claim 37, wherein the step of simultaneously placing moisture above the plurality of points comprises simultaneously placing water above the plurality of points.

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78. (New) *The apparatus* as set forth in Claim 37, wherein at least one of the scanning steps comprises scanning laser energy from an Er, Cr:YSGG solid state laser having a wavelength of about 2.78 microns.

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79. (New) *The apparatus* as set forth in Claim 37, wherein at least one of the scanning steps comprises scanning laser energy from an Er:YAG solid state laser having a wavelength of about 2.94 microns.

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80. (New) *The apparatus* as set forth in Claim 37, wherein at least one of the scanning steps comprises scanning laser energy from an Er:YAG solid state laser having a wavelength in a range of about 2.7 microns to about 2.8 microns.

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81. (New) *The apparatus* as set forth in Claim 37, wherein at least one of the scanning steps comprises scanning laser energy from a CTE:YAG solid state laser having a wavelength of about 2.69 microns.

82. (New) The method as set forth in Claim 38, wherein the first amounts of moisture comprise a first fluid, the second amounts of moisture comprise a second fluid, and the first and second fluids have different compositions.

83. (New) The method as set forth in Claim 38, wherein:

a portion of the first amounts of moisture substantially absorb the electromagnetic energy during the first time period, expand, and impart disruptive forces onto or within the target surface; and

a portion of the second amounts of moisture substantially absorb the electromagnetic energy during the first time period, expand, and impart disruptive forces onto or within the target surface.

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84. (New) The apparatus as set forth in Claim 38, wherein at least one of the step of simultaneously placing first amounts of moisture above the plurality of points and the step of simultaneously placing second amounts of moisture above the plurality of points comprises simultaneously placing water above the plurality of points.

85. (New) The apparatus as set forth in Claim 38, wherein at least one of the scanning steps comprises scanning laser energy from an Er, Cr:YSGG solid state laser having a wavelength of about 2.78 microns.

86. (New) The apparatus as set forth in Claim 38, wherein at least one of the scanning steps comprises scanning laser energy from an Er:YAG solid state laser having a wavelength of about 2.94 microns.

87. (New) The apparatus as set forth in Claim 38, wherein at least one of the scanning steps comprises scanning laser energy from an Er:YAG solid state laser having a wavelength in a range of about 2.7 microns to about 2.8 microns.

88. (New) The apparatus as set forth in Claim 38, wherein at least one of the scanning steps comprises scanning laser energy from a CTE:YAG solid state laser having a wavelength of about 2.69 microns.

89. (New) The method as set forth in Claim 83, wherein in addition to the

disruptive forces imparted onto or within the target surface, thermal cutting forces and coagulation are also imparted onto or within the target surface.

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90. (New) An apparatus for imparting disruptive forces onto a target surface, comprising:

a housing;

a source of electromagnetic energy coupled to the housing and constructed to focus or direct electromagnetic energy into an interaction zone in close proximity to the target surface;

at least one contacting leg coupled to the housing, the at least one contacting leg comprising a ball constructed to contact a surface and to space the source of electromagnetic energy from the target surface when the electromagnetic energy is being focused or directed into the interaction zone; and

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a fluid output constructed to place fluid into the interaction zone, simultaneously with the focusing or directing of electromagnetic energy into the interaction zone, at least part of the electromagnetic energy from the source of electromagnetic energy being absorbed by at least a portion of the fluid in the interaction zone, and the absorption of the electromagnetic energy by the fluid causing the fluid to expand and impart disruptive forces onto or within the target surface.

91. (New) The apparatus as set forth in Claim 90, wherein:

the surface contacted by the at least one contacting leg is in close vicinity to the target surface; and

the fluid output comprises a moisture output constructed to place moisture into the interaction zone, simultaneously with the focusing or directing of electromagnetic energy into the interaction zone, the electromagnetic energy from the source of electromagnetic energy being absorbed by the moisture in the interaction zone, and the absorption of the electromagnetic energy by the moisture causing the moisture to expand and impart disruptive forces onto or within the

target surface.

92. (New) The apparatus as set forth in Claim 91, wherein in addition to the disruptive forces imparted onto or within the target surface the apparatus imparts thermal cutting forces and coagulation onto or within the target surface.

93. (New) The apparatus as set forth in Claim 91, wherein the at least one contacting leg comprises a plurality of contacting legs, with each contacting leg comprising a ball.

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94. (New) The apparatus as set forth in Claim 90, wherein the fluid output comprises water and is constructed to simultaneously place water into the interaction zone so that the at least part of the electromagnetic energy from the source of electromagnetic energy is absorbed by the at least a portion of the fluid in the interaction zone.

95. (New) The apparatus as set forth in Claim 90, wherein the source of electromagnetic energy comprises an Er, Cr:YSGG solid state laser having a wavelength of about 2.78 microns.

96. (New) The apparatus as set forth in Claim 90, wherein the source of electromagnetic energy comprises an Er:YAG solid state laser having a wavelength of about 2.94 microns.

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97. (New) The apparatus as set forth in Claim 90, wherein the source of electromagnetic energy comprises an Er:YAG solid state laser having a wavelength in a range of about 2.7 microns to about 2.8 microns.

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98. (New) The apparatus as set forth in Claim 90, wherein the source of electromagnetic energy comprises a CTE:YAG solid state laser having a wavelength of about 2.69 microns.

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99. (New) An apparatus for imparting disruptive forces onto a target surface, comprising:

a housing;

a source of electromagnetic energy coupled to the housing and constructed to focus or direct electromagnetic energy into an interaction zone in close proximity to the target surface;

at least one contacting leg coupled to the housing, the at least one contacting leg comprising a proximal end, a distal end, a length measured between the proximal end and the distal end, and a width measured in a direction substantially transverse to the length, the distal end of the at least one contacting leg comprising a rounded foot, having a substantially continuously curved surface extending across the width, to thereby facilitate contacting and movement of the at least one contacting leg on and over a surface, the rounded foot being constructed to space the source of electromagnetic energy from the target surface when the electromagnetic energy is being focused or directed into the interaction zone; and

a fluid output constructed to place fluid into the interaction zone, simultaneously with the focusing or directing of electromagnetic energy into the interaction zone, at least part of the electromagnetic energy from the source of electromagnetic energy being absorbed by at least a portion of the fluid in the interaction zone, and the absorption of the electromagnetic energy by the fluid causing the fluid to expand and impart disruptive forces onto or within the target surface.

100. (New) The apparatus as set forth in Claim 99, wherein:

the surface contacted by the at least one contacting leg is in close vicinity to the target surface; and

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the fluid output comprises a moisture output constructed to place moisture into the interaction zone, simultaneously with the focusing or directing of electromagnetic energy into the interaction zone, the electromagnetic energy from the source of electromagnetic energy being absorbed by the moisture in the interaction zone, and the absorption of the electromagnetic energy by the moisture causing the moisture to expand and impart disruptive forces onto or within the target surface.

101. 101. (New) The apparatus as set forth in Claim 100, wherein in addition to the disruptive forces imparted onto or within the target surface the apparatus imparts thermal cutting forces and coagulation onto or within the target surface.

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102. (New) The apparatus as set forth in Claim 99, wherein the at least one contacting leg comprises a plurality of contacting legs with each contacting leg comprising a rounded foot.

103. (New) The apparatus as set forth in Claim 99, wherein the fluid output comprises water and is constructed to simultaneously place water into the interaction zone so that the at least part of the electromagnetic energy from the source of electromagnetic energy is absorbed by the at least a portion of the fluid in the interaction zone.

104. (New) The apparatus as set forth in Claim 99, wherein the source of electromagnetic energy comprises an Er, Cr:YSGG solid state laser having a wavelength of about 2.78 microns.

105. (New) The apparatus as set forth in Claim 99, wherein the source of electromagnetic energy comprises an Er:YAG solid state laser having a wavelength of about 2.94 microns.

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106. (New) The apparatus as set forth in Claim 99, wherein the source of electromagnetic energy comprises an Er:YAG solid state laser having a wavelength in a range of about 2.7 microns to about 2.8 microns.

107. (New) The apparatus as set forth in Claim 99, wherein the source of electromagnetic energy comprises a CTE:YAG solid state laser having a wavelength of about 2.69 microns.

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108. (New) An apparatus for imparting disruptive forces onto a target surface, comprising:

a housing;

a source of electromagnetic energy coupled to the housing and constructed to focus or direct electromagnetic energy into an interaction zone in close proximity to the target surface;

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at least one contacting leg coupled to the housing, the at least contacting leg comprising a proximal end, a distal end, a length measured between the proximal end and the distal end, and a width measured in a direction substantially transverse to the length, the distal end of the at least one contacting leg comprising at least one slidable foot with a non-rectangular outer edge to thereby facilitate contacting and sliding of the at least one contacting leg on and over a surface, the slidable foot being constructed to space the source of electromagnetic energy from the target surface when the electromagnetic energy is being focused or directed into the interaction zone; and

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a fluid output constructed to place fluid into the interaction zone, simultaneously with the focusing or directing of electromagnetic energy into the interaction zone, at least part of the electromagnetic energy from the source of electromagnetic energy being absorbed by at least a portion of the fluid in the interaction zone, and the absorption of the electromagnetic energy by the fluid causing the fluid to expand and impart disruptive forces onto or within the target surface.

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109. (New) The apparatus as set forth in Claim 108, wherein in addition to the disruptive forces imparted onto or within the target surface the apparatus imparts thermal cutting forces and coagulation onto or within the target surface.

110. (New) The apparatus as set forth in Claim 108, wherein the fluid output comprises water and an additive having lubricating properties for facilitating sliding of the slidable foot.

111. (New) The apparatus as set forth in Claim 108, wherein the fluid output comprises soft water.

112. (New) The apparatus as set forth in Claim 108, wherein:
the surface contacted by the at least one contacting leg is in close vicinity to the target surface; and
the fluid output comprises a moisture output constructed to place moisture into the interaction zone, simultaneously with the focusing or directing of electromagnetic energy into the interaction zone, the electromagnetic energy from the source of electromagnetic energy being absorbed by the moisture in the interaction zone, and the absorption of the electromagnetic energy by the moisture causing the moisture to expand and impart disruptive forces onto or within the target surface.

113. (New) The apparatus as set forth in Claim 108, wherein the at least one contacting leg comprises a plurality of contacting legs.

114. (New) The apparatus as set forth in Claim 108, wherein the fluid output comprises water and is constructed to simultaneously place water into the interaction zone so that the at least part of the electromagnetic energy from the source of electromagnetic energy is absorbed by the at least a portion of the fluid in

the interaction zone.

115. (New) The apparatus as set forth in Claim 108, wherein the source of electromagnetic energy comprises an Er, Cr:YSGG solid state laser having a wavelength of about 2.78 microns.

116. (New) The apparatus as set forth in Claim 108, wherein the source of electromagnetic energy comprises an Er:YAG solid state laser having a wavelength of about 2.94 microns.

117. (New) The apparatus as set forth in Claim 108, wherein the source of electromagnetic energy comprises an Er:YAG solid state laser having a wavelength in a range of about 2.7 microns to about 2.8 microns.

118. (New) The apparatus as set forth in Claim 108, wherein the source of electromagnetic energy comprises a CTE:YAG solid state laser having a wavelength of about 2.69 microns.

119. (New) The apparatus as set forth in Claim 33, wherein the electromagnetic energy is absorbed by at least part of the moisture to thereby impart disruptive forces onto or within the target surface; and wherein thermal cutting forces and coagulation are also imparted onto the target surface by the apparatus.

120. (New) The apparatus as set forth in Claim 34, wherein the electromagnetic energy is absorbed by at least part of the moisture to thereby impart disruptive forces onto or within the target surface; and wherein thermal cutting forces and coagulation are also imparted onto the target surface by the apparatus.